

FLOW DIAGNOSTIC SYSTEM

CROSS-REFERENCE TO RELATED APPLICATIONS

5 This is a Continuation-In-Part of U.S.
application Serial No. 09/257,896, filed February 25,
1999 ^{PAT 6,017,143}, which is a Continuation-In-Part of U.S.
application Serial No. 08/623,569, filed March 28,
1996 ^{PAT 6,017,143}, and this application is also a Continuation-In-
10 Part of U.S. application Serial No. 09/383,828, filed
August 27, 1999 ^{PAT 6,654,697}

FIELD OF THE INVENTION

15 The present invention relates to fluid process
control systems. In particular, the present invention
relates to diagnostic systems for fluid flow in
process control systems.

BACKGROUND OF THE INVENTION

20 Fluid flow meters are used in industrial process
control environments to measure fluid flow and provide
flow signals for flow indicators and controllers.
Inferential flow meters measure fluid flow in a pipe
by measuring a pressure drop near a discontinuity
25 within the pipe. The discontinuity (primary element)
can be an orifice, a nozzle, a venturi, a pitot tube,
a vortex shedding bar, a target or even a simple bend
in the pipe. Flow around the discontinuity causes both
a pressure drop and increased turbulence. The pressure
30 drop is sensed by a pressure transmitter (secondary
element) placed outside the pipe and connected by
impulse lines or impulse passageways to the fluid in
the pipe. Reliability depends on maintaining a correct